

**Abstract of the Disclosure**

A system for determining at least one condition of a bearing including an optical fiber for transmitting light from a light source. The optical fiber is embedded in the bearing and operatively coupled to an interferometric system. The interferometric system is operatively coupled to a processor. The interferometric system provides the processor with information relating to wear of the optical fiber, and the processor determines wear of the bearing, rate of wear and remaining useful life of the bearing based on the information relating to wear of the optical fiber.

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